

CLAIMS

What is claimed is:

1. A method for removing image compression artifacts comprising:
 - (a) comparing a center pixel value with a perimeter pixel value to generate a compare pixel value;
 - (b) when the compare pixel value is below a threshold value:
 - (b1) incrementing a count value; and
 - (b2) incrementing an accumulation value;
 - (c) repeating steps (a) through (b) for each of a plurality of perimeter pixel values; and
 - (d) if count value has been incremented in step (b):
 - (d1) generating an output center pixel value based on the count value and the accumulation value.
2. The method of claim 1 further comprising:
 - (e) if the count value has not been incremented in step (b):
 - (e1) generating an output center pixel value equivalent to the center pixel value.
3. The method of claim 1 wherein the step (a) further comprising:
 - (a1) calculating the difference between the center pixel value and the perimeter value;
and
 - (a2) calculating the absolute value of the difference of (a1).
4. The method of claim 1 wherein the step of (d1) further comprises generating the output center pixel value as the accumulation value divided by the count value.
5. The method of claim 1 wherein the threshold value defines an edge.
6. The method of claim 1 wherein steps of (a) through (d) are performed once per color in a color scheme.

7. The method of claim 2 further comprising:
 - (f) providing the output center pixel value to a frame buffer.
8. The method of claim 7 further comprising:
 - (g) repeating steps (a) through (f) for each of the plurality of pixels of an image except for a plurality of image perimeter pixels; and
 - (h) generating an output image frame including the image perimeter pixels and the plurality of output pixel values.
9. The method of claim 8 further comprising:
 - (i) providing the output image frame to a display device.
10. The method of claim 8 further comprising:
 - (i) providing the output image frame to a compression engine.

11. An apparatus for removing image compression artifacts comprising:

a comparator operably coupled to receive a threshold value;

an accumulator and a counter, the accumulator and the counter operably coupled to the comparator such that the accumulator is operative to receive an accumulation value and the counter is operative to receive a counter value; and

the comparator operative to receive a center pixel value and a perimeter pixel value such that the comparator is operative to generate a compare pixel value as the difference between the perimeter pixel value and the center pixel value and operative to compare the compare pixel value with the threshold value such that when the compare pixel value is below the threshold value, the comparator is operative to increment the count value and increment the accumulation value.

12. The apparatus of claim 11 further comprising:

an output pixel generator operatively coupled to the accumulator and the counter wherein the output pixel generator is operative to generate an output pixel value, wherein the output center pixel value is the center pixel value if the counter value has not been incremented and if the counter value has been incremented, the output center pixel value is the accumulation value divided by the count value.

13. The apparatus of claim 12 further comprising:

a pixel divider operably coupled to the comparator and the output pixel generator, wherein the pixel divider is operative to provide center pixel value to the comparator and the output pixel generator and the pixel divider is operative to provide the perimeter pixel to the comparator.

14. The apparatus of claim 13 further comprising:

the pixel divider operative to receive pixel information from an image source.

15. The apparatus of claim 12 further comprising:

a frame buffer operably coupled to the output pixel generator wherein the frame buffer is operative to receive the output center pixel and store the output center pixel therein.

16. The apparatus of claim 15 further comprising:

the frame buffer operably coupleable a compression engine such that an image frame may be provided thereto.

17. The apparatus of claim 15 further comprising:

the frame buffer operably coupleable to a display device such that an image frame may be provided thereto.

18. A method for removing image compression artifacts comprising:
 - (a) comparing a center pixel value with a perimeter pixel value to generate a compare pixel value including:
 - (a1) calculating the difference between the center pixel value and the perimeter value; and
 - (a2) calculating the absolute value of the difference of (a1);
 - (b) when the compare pixel value is below a threshold value:
 - (b1) incrementing a count value; and
 - (b2) incrementing an accumulation value;
 - (c) repeating steps (a) through (b) for each of a plurality of perimeter pixel values; and
 - (d) if count value has been incremented in step (b):
 - (d1) generating an output center pixel value as the accumulation value divided by the count value.
 - (e) if the count value has not been incremented in step (b):
 - (e1) generating an output center pixel value equivalent to the center pixel value.
19. The method of claim 18 wherein the threshold value defines an edge.
20. The method of claim 18 wherein steps of (a) through (d) are performed once per color in a color scheme.
21. The method of claim 18 further comprising:
 - (f) providing the output center pixel value to a frame buffer;
 - (g) repeating steps (a) through (f) for each of the plurality of pixels of an image except for a plurality of image perimeter pixels; and

- (h) generating an output image frame including the image perimeter pixels and the plurality of output pixel values.

22. An apparatus for removing image compression artifacts comprising:
a memory device storing a plurality of executable instructions; and
a processor operably coupled to the memory device such that the processor, in response to the executable instructions:

- (a) compares a center pixel value with a perimeter pixel value to generate a compare pixel value;
- (b) when the compare pixel value is below a threshold value:
 - (b1) increments a count value; and
 - (b2) increments an accumulation value;
- (c) repeats steps (a) through (b) for each of a plurality of perimeter pixel values; and
- (d) if count value has been incremented in step (b):
 - (d1) generates an output center pixel value based on the count value and the accumulation value.

23. The apparatus of claim 22, the processor further in response to executable instructions:

- (e) if the count value has not been incremented in step (b):
 - (e1) generates an output center pixel value equivalent to the center pixel value.

24. The apparatus of claim 22, the processor further in response to executable instructions:

- (a1) calculates the difference between the center pixel value and the perimeter value; and
- (a2) calculates the absolute value of the difference of (a1).

25. The apparatus of claim 22 wherein the processor in response to the executable instructions, generates the output center pixel value as the accumulation value divided by the count value.